ABSTRACT OF THE INVENTION

the invention advantageously provides a method for motion estimation and bandwidth reduction in a memory and a device for performing the same. The device according to the invention includes a memory for storing a plurality of frame data, a controller connected to the memory, a first motion estimation processor for performing a coarse-tuning operation and a second motion estimation processor for performing a fine-tuning operation. Similarity between a reference frame and a current frame is calculated based on the averages of every two adjacent pixels in the reference macroblocks and current macroblocks. The amount of calculations for determining motion estimation is greatly reduced, and bandwidth in utilizing the memory is accordingly reduced as motion estimation is advantageously achieved.